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23. A chimeric gene comprising the EPSPS-encoding DNA of claim 19, together with regulatory elements which express the DNA in a plant cell.

24. The chimeric gene of claim 23, which comprises, in the direction of transcription, a promotor region, a transit peptide region, the EPSPS-encoding DNA, and an untranslated polyadenylation signal region.

25. A plant transformation vector comprising the chimeric gene of claim 24.

26. A plant cell transformed with the vector of claim 25.

27. A plant regenerated from the plant cell of claim 26.

28. A plant as claimed in claim 27 which is a maize plant.

29. An agricultural method, comprising:

a. growing a transformed plant which is tolerant to a glyphosate herbicide, the transformed plant containing DNA encoding a mutated 5-enol pyruvylshikimate-3-phosphate synthase (EPSPS), the mutated EPSPS having a threonine by isoleucine substitution at position 102 and a proline by serine substitution at position 106; and

b. applying a glyphosate herbicide to said plant.

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